

REMARKS

These amendments and remarks are being filed in response to the Office Action dated March 13, 2006. For the following reasons this application should be allowed and the case passed to issue.

No new matter is introduced by this amendment. The amendment to claim 1 is supported by claim 2, as originally filed, and the Specification at page 3, lines 24-27 and page 4, lines 4-14.

Claims 1 and 3-8 are pending in this application. Claim 8 was withdrawn pursuant to a restriction requirement. Claims 1-7 are rejected. Claim 1 has been amended in this response. Claim 2 was canceled in this response.

Restriction

Upon the allowance of the device claims, Applicant respectfully requests rejoinder, examination, and allowance of method claim 8, pursuant to the rejoinder provisions of MPEP § 821.04.

Claim Rejections Under 35 U.S.C. § 112

Claims 1-7 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because it is allegedly unclear how the body of the claim relates to the preamble. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claim 1 has been amended to address the asserted informalities. Applicant submits that the present claims fully comport with the requirements of 35 U.S.C. § 112.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-4 were rejected under 35 U.S.C. 35 § 102(e) as being anticipated by Mayer et al. (U.S. Pat. Pub. No. 2004/0065540). This rejection is traversed, and reconsideration and

withdrawal thereof respectfully requested. The following is a comparison between the present invention, as claimed, and the cited prior art.

An aspect of this invention, per claim 1, is a substrate cleaning device comprising a substrate holder to hold an edge of a substrate. A plurality of heat sources are opposite to and separated from a surface of the substrate with a gap, and each are used for heating or cooling. A temperature controller is provided to control a temperature of the plurality of heat sources to allow the plurality of heat sources to be set at different temperatures. A cleaning liquid filling section for filling the gap with a cleaning liquid, wherein a plurality of heat sources each have a surface opposite to the substrate along a different concentric circle.

The Examiner asserted that Mayer et al. disclose a substrate cleaning device (Figs. 9 and 10) comprising a plurality of heat sources (832, 838), a temperature controller (paragraph [0082]), substrate holder (806), liquid filler (826), concentric heaters (Figs. 9 and 11), rotating the substrate (866), and chuck pins (paragraph [0053]).

Mayer et al., however, do not disclose that the heat sources are concentric heaters. Contrary to the Examiner's assertions, it cannot be determined from Figs. 9 and 11 that the heaters are concentric heaters, as required by claim 1.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. *Helifix Ltd. v. Blok-Lok Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 399, 36 USPQ2d 1101 (Fed. Cir. 1995); *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d

1051 (Fed. Cir. 1987). Because Mayer et al. do not disclose that the plurality of heat sources each have a surface opposite to the substrate along a different concentric circle, as required by claim 1, Mayer et al. do not anticipate claim 1.

Claim Rejections Under 35 U.S.C. § 103

Claim 5 was rejected under 35 U.S.C. 35 § 103(a) as being unpatentable over Mayer et al. in view of Hasegawa et al. (U.S. Pat. No. 5,667,622). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner acknowledged that Mayer et al. do not disclose Peltier devices. The Examiner relied on the Hasegawa et al. teaching of Peltier devices to assert that it would have been obvious to use Peltier devices in the apparatus of Mayer et al. because they are useful for providing localized temperature control of each region of the substrate.

The combination of Mayer et al. and Hasegawa et al. do not suggest the claimed device because Hasegawa et al. do not cure the deficiencies of Mayer et al. Hasegawa et al. do not suggest substituting a plurality of heat sources that each have a surface opposite to the substrate along a different concentric circle, as required by claim 1, into the device of Mayer et al.

Claims 6 and 7 were rejected under 35 U.S.C. 35 § 103(a) as being unpatentable over Mayer et al. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner acknowledged that Mayer et al. do not disclose the composition of the chuck pins. The Examiner maintained that chuck pins comprising PVC would have been obvious because Mayer teaches that PVC is a useful material in cleaning devices because they can withstand temperature and corrosive conditions of etching operations.

Mayer et al., however, do not suggest a plurality of heat sources that each have a surface opposite to the substrate along a different concentric circle, as required by claim 1.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge readily available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). There is no suggestion in Mayer et al. of a plurality of heat sources that each have a surface opposite to the substrate along a different concentric circle, as required by claim 1.

The requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. § 103 is not an abstract concept, but must stem from the applied prior art as a whole and realistically impel one having ordinary skill in the art to modify a specific reference in a specific manner to arrive at a specifically claimed invention. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). Accordingly, the Examiner is charged with the initial burden of identifying a source in the applied prior art for the requisite realistic motivation. *Smiths Industries Medical System v. Vital Signs, Inc.*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999); *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1449 (Fed. Cir. 1997). The Examiner did not identify any motivation in Mayer et al. to provide a plurality of heat sources that each have a surface opposite to the substrate along a different concentric circle, as required by claim 1.

In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to discharge the initial burden by, *inter alia*, making "**clear and particular**" factual findings as to a **specific**

understanding or specific technological principle which would have **realistically** impelled one having ordinary skill in the art to modify an applied reference to arrive at the claimed invention based upon facts, -- not generalizations. *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 57 USPQ2d 1161 (Fed. Cir. 2000); *Ecolochem Inc. v. Southern California Edison, Co.*, 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab, supra*; *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). That burden has not been discharged, as the Examiner has provided no factual basis for modifying Mayer et al. to include a plurality of heat sources that each have a surface opposite to the substrate along a different concentric circle, as required by claim 1.

The only teaching of the plurality of heat sources that each have a surface opposite to the substrate along a different concentric circle, as required by claim 1. is found in Applicant's disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Examiner's retrospective assessment of the claimed invention and use of unsupported conclusory statements are not legally sufficient to generate a case of *prima facie* obviousness. The motivation for modifying the prior art must come from the prior art and must be based on facts. The Examiner is not free to ignore the judicial requirement for **facts**. To do so is legal error. *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002).

The dependent claims are allowable for at least the same reasons as independent claim 1 and further distinguish the claimed invention.

In view of the above remarks, Applicant submits that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the

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application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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